Road & Bridge Design Publications

Monthly Update – November 2021

Revisions for the month of **November** are listed and displayed below and will be included in projects submitted for the **March** letting.

E-mail road related questions to MDOT-Road-Design-Standards@michigan.gov.
E-mail bridge related questions to MDOT-Bridge-Design-Standards@michigan.gov.

Road Design Manual

3.12H: Underclearances: Revised the Vertical Clearance Exception Coordination email.

7.01.12: Types of Guardrail Used in Michigan: Added text to distinguish guardrail types to be used on NHS local roads versus non-NHS local roads.

12.11.01, 12.11.02 and 12.11.03: Railroad Coordination: Updates were made in response to FHWA Compliance Assessment Program (CAP) review including references and a link to Form 1425 for notification of projects involving railroad crossing, and various revisions to reflect current practice.

14.09: Risk Based Project Involvement (RBPI): Revised section title from MDOT Oversight/FHWA Oversight to RBPI. Updated language and added a link to the RBPI Guidance document.

14.11: Design Exceptions/Variances: Replaced the term PoDI with RBPI.

14.22: Railroad Coordination: Paragraph revised for consistency with Chapter 12 railroad coordination coverage. Railroad coordination procedural information was moved to Chapter 12, section 12.11.

14.41.03: Act 51 Participation: Revised the Act 51 participation ranges for cities based on the results of the 2020 census.

14.57: Plan Completion & OEC/Certification Acceptance: Revised PoDI to RBPI, along with other minor revisions to provide the proper terminology and clarity.

14.60.01 & 14.60.02: General: Revised Plan Development Services Intranet website to Plan Development SharePoint site and supervisor of the unit to the Supervisor of the Specifications and Estimates Unit.

14.60.05: AASHTOWare Project (AP)Preconstruction Files: Revised CE percentage to CE dollar amount.

Road & Bridge Design Publications

Monthly Update – November 2021

Bridge Design Manual

3.02.05: Updated list of cities for Act 51 Participation and the list of participating and non-participating items are now found at on the web at Act 51 Participating and Nonparticipating Items.

7.01.08 B. (LFD & LRFD): Updated email for form 0333 submission.

Updates to the MDOT Cell Library, Sample Plans, and other automated tools may be required in tandem with some of this month's updates. Until such updates can be made, it is the designer's/detailer's responsibility to manually incorporate any necessary revisions to notes and plan details to reflect these revisions.

3.11.03 (continued)

Safety Considerations

K. Clear Zones & Fixed Objects

The current clear zone criteria specified in Section 7.01.11 should be used when upgrading freeways. Obstacles within these limits should be shielded or removed. Obstacles beyond these limits, but within the recovery area, should be reviewed by the Geometrics Unit in the Design Division.

L. Culvert End Treatments

The ends of culverts located within the clear zone on projects programmed for upgrading shall be according to ***MDOT Drainage Manual***, Section 5.3.5.

M. Bridges

See the Bridge Management Unit, Construction Field Services Division for FHWA conformance requirements.

3.12 (revised 11-22-2021)

UNDERCLEARANCES

A. 4R Freeway

Roadway 4R projects on the Freeway System must be designed to meet the current AASHTO vertical clearance requirement of 16'-0" (16'-3" is desired for future overlay of the road). Scoping of projects must include a determination of the most effective means of obtaining the vertical clearance standard. A cost/benefit analysis to determine how best to achieve the standard, either in full or with incremental progress needs to be prepared. The analysis should include the alternatives of obtaining all vertical clearances with the road project, a bridge project, or some combination of road and bridge work to meet the clearance requirements. In many cases it may not be possible to achieve the complete vertical clearance with the proposed road project. If the most efficient plan for meeting the vertical clearance requirement is incremental progress, a design exception will be required. The design exception should be submitted as soon as possible, preferably prior to the submittal of the call for projects. This assures that design is not started on projects that may not be approved. The following is the minimum information required to prepare a vertical clearance analysis. This information is also required if a design exception is submitted.

- Preliminary grades for the bridge and approaches, the route under the structure, and ramps if appropriate.
- Location of existing structure foundations related to the proposed grade changes.
- Impact evaluation on existing drainage.
- Evaluation of any other deficient geometric feature.

3.12H (continued)

UNDERCLEARANCES

In addition to normal processing of design exceptions, all proposed design exceptions pertaining to vertical clearance on Interstate routes including shoulders, and all ramps and collector distributor roadways of Interstate to Interstate interchanges will be coordinated with the Surface Deployment and Distribution Command Transportation Engineering Agency (SDDCTEA). The only Interstate routes the SDDCTEA is interested in are the routes that require a 16'-0" vertical clearance. These routes include all the Interstate system including US-131 between I-196 and I-96 (this roadway is technically I-296 but not signed as such). In addition to the Interstate route requirements listed above, US-23 between Ohio state line and I-75 south of Flint shall require coordination with SDDCTEA. This requirement does not apply to Special Routes (1).

MDOT (or its Consultant) is responsible for coordinating exceptions on all projects regardless of oversight responsibilities. MDOT will send a copy of all requests, and responses, to the FHWA. Michigan Interstate Vertical Clearance Exception Coordination, MDOT Form # 0333, is available from MDOT web site.

3.12H (continued)

Requests for coordination shall be emailed to:
usarmy.scott.sddc.mbx.tea-hnd@mail.mil

Contact with inquiries:
Douglas E. Briggs, P.E., 618-220-5229
douglas.e.briggs.civ@mail.mil
or
Grant E. Lang, 618-220-5216
grant.e.lang.civ@mail.mil

Physical mailings:
Highways for National Defense
ATTN: SDDCTEA
1 Soldier Way
Scott AFB, IL 62225

Fax: 618-220-5125

MDOT (or its consultant) shall verify SDDCTEA receipt of the request. If no comments are received within ten working days, it may be assumed that the SDDCTEA does not have any concerns with the proposed design exception.

7.01.12 (revised 11-22-2021)

Types of Guardrail Used in Michigan

There are seven standard types of steel beam guardrail in addition to cable barrier found on Michigan highways. The term "Current Use" means "currently proposed for use", not necessarily what may be found existing in the field.

A. Type A (Standard Plan R-60-Series)

Description: W-beam attached directly to posts, Terminal End Shoes on ends. 12'-6" post spacing, 28" height to top of rail.

Current Use:
1. Cul-de-sacs
2. Limited to locations not exposed to through traffic.

B. Type B (Standard Plan R-60-Series)

Description: W-beam guardrail, 8" offset blocks. 6'-3" post spacing, 28" height to top of rail.

Current Use:
1. Updating existing Type B guardrail on free access trunklines when the entire run of guardrail is not being removed and replaced.
2. May be used at the discretion of local agencies on local non-NHS roads.

C. Type BD (Standard Plan R-60-Series)

Description: Type B with W-beam on both sides of the post, 8" offset blocks.

Current Use:
1. Updating existing Type BD guardrail in medians on free access trunklines when the entire run of guardrail is not being removed and replaced.

7.01.12 (continued)

D. Type T (Standard Plan R-60-Series)

Description: Offset thrie beam rail, 8" offset blocks, 6'-3" post spacing, 34" height to top of rail.

Current Use:
1. Updating existing freeways and ramps when the entire run of guardrail is not being removed and replaced.

E. Type TD (Standard Plan R-60-Series)

Description: Similar to Type T except beam elements and offset blocks are installed on both sides of the post.

Current Use:
1. Used to update existing Type TD guardrail when the entire run of guardrail is not being removed and replaced.

F. Type MGS-8
(Standard Plan R-60-Series)

Description: W-beam guardrail meeting MASH criteria, 8" offset blocks, standard 6'-3" post spacing, and 31" height to top of rail. Beam element splices occur between standard 6'-3" post spaces.

Current Use:
1. Standard MASH-compliant guardrail for all freeways (including ramps) and free access trunklines.
2. All trunkline roads (NHS and non-NHS) and local, NHS roads. Recommended on local, non-NHS roads but not required (per local agency's discretion).

7.01.12 (continued)

Types of Guardrail used in Michigan

G. Type MGS-8D
(Standard Plan R-60-Series)

Description: Type MGS-8 with W-beam guardrail and 8" offset blocks on both sides of the post.

Current Use:
1. In all roadway medians, freeway and free access trunklines, when median guardrail is recommended and a MASH-compliant guardrail system is desired.

7.01.12 (continued)

H. Cable Barrier (See Section 7.01.55C)

Description: Three or four steel cables mounted on steel posts, anchored and tensioned.

Current Use:
1. Medians where crash history indicates cross median crashes and rigid barrier is not warranted.
2. Special situations where up to 90 degree impacts can be expected and larger deflections can be tolerated.

CHAPTER 12 MISCELLANEOUS ROADS INDEX (continued)

12.11

RAILROAD CROSSINGS

12.11.01 (revised 11-22-2021)

References

A. Standard Plan R-121-Series, "Track Crossings"

B. Standard Plan R-122-Series, "Railroad Crossing Signals"

C. Michigan Manual of Uniform Traffic Control Devices, Part VIII

D. Michigan Department of Transportation, Guidelines for Highway-Railroad Grade Crossings

E. Federal Highway Administration, Railroad-Highway Grade Crossing Handbook

F. American Association of State Highway and Transportation Officials, A Policy on Geometric Design of Highways and Streets

G. American Railway Engineering Association, Manual for Railway Engineering

H. Association of American Railroads, Signal Manual

12.11.02 (revised 11-22-2021)

General

By law, a new highway-railroad crossing must have approval by the Department. Determination of the necessity and feasibility of the crossing will be by the MDOT Office of Rail, Rail Safety Section. The Rail Safety Section will determine the required traffic control devices that are appropriate at the location. The costs associated with the new crossing will be at the expense of the requesting party.

When a roadway improvement project requires a change great than 1” to the elevation of the tracks or roadway, lengthening of the crossing, or changes in alignment the cost is the responsibility of the road agency (Department/requesting party).

Existing agreements may dictate the cost responsibilities at crossings. Certain safety improvements at highway-railroad crossings may be funded with federal or state grade crossing account funds. Also, federal funds may be used for crossing improvements required in connection with road improvement projects. The MDOT Office of Rail, Rail Infrastructure Section must be consulted about laws, agreements, and funding. Work and coordination with the railroad pertaining to roadway improvement projects will comply with MCL 462 including Act 354 of 1993 (Michigan Railroad Code), 23 CFR 635.309(b) and 23 CFR 635.307.

Costs associated with maintaining traffic or detour traffic signing and roadway approach work for the railroad crossing improvements necessitated by the project will be included in the roadway project costs. Railroad Force Account work could potentially fund required improvements being performed by the railroad. Railroad payments will be in accordance with Master Agreement between the Railroad and the Department.

12.11.03 (revised 11-22-2021)

Railroad Coordination
(PPD Task Description 3650)

Contact by the Department with the railroad company is required any time a railroad crossing is within a highway project Construction Influence Area (CIA). Coordination may also be required if queuing is expected to extend beyond the CIA and impact crossings. Contact and negotiations with the railroad company are made by the MDOT Office of Rail, Rail Infrastructure Section.

For at-grade crossings and grade separations, the railroad contact information is provided by the MDOT Office of Rail, Rail Infrastructure Section.

Any changes in the railroad facilities, including rail elevations, superelevation, or relocation, must be discussed with the Trunkline Grade Crossing Engineer and must have railroad approval.

In the case of at-grade crossings the Design Unit must:

1. Contact the Railroad MDOT Office of Rail, Rail Infrastructure Section. The designer must contact this office very early in the design stage to alert the Trunkline Grade Crossing Engineer that a crossing is involved and to afford the opportunity for early project input and coordination. The Rail Infrastructure Section must also be notified during scoping to discuss impacts at the railroad crossing and determine how to best reduce impacts to the project.

12.11.03 (continued)

2. Complete Notification of Proposed Projects Involving a Public Railroad Crossing (Form 1425) approximately one year minimum to two years maximum prior to construction and submit to the MDOT Office of Rail, Rail Safety Section for determination if a Diagnostic Study Team Review (DSTR) meeting is warranted. Notification will be forwarded to the Project Manager and the impacted railroad company. If there are safety improvements warranted than a DSTR meeting will be scheduled and ultimately, lead to the issuance of a regulatory order by the Department.

3. Provide electronic plan set access including the title sheet, typical cross section, maintaining traffic, signing plan sheets, and plan and profile sheets for the affected railroad crossing with a memorandum to the Rail Infrastructure Section indicating the proposed roadway improvements to be made. The Rail Infrastructure Section will advise the Design Unit as to what preliminary additions and alterations are desirable to satisfy the particular railroad company involved. Even if little or no impact on the railroad is expected, the railroad must be notified, and a coordination clause typically will be required.

4. Always show track elevations and profiles on the plans when work is anticipated to impact the crossing. If sufficient survey is not available, write a note to this effect on the plans. If track adjustments in excess of 1" are required, detailed existing and proposed elevations are required on the plans.

   It is particularly important that both existing and proposed utility crossings under and over the railroad be shown. Details of those crossings must also be included and approved by that railroad company.

12.11.03 (continued)

Railroad Coordination

5. After the plan notes have been completed to the satisfaction of the Rail Infrastructure Section, provide electronic plan set access to the Rail Infrastructure Section for their use in contacting the railroad. Any required Special Provisions will be supplied to the Design Unit by the Rail Infrastructure Section for inclusion in the Proposal

6. While the general design of the railroad crossing should be set after The Plan Review, it should be noted that railroad negotiations will take a minimum of six months to complete. Early notification and coordination can reduce this timeframe. If an agreement is required, it will take a minimum of one year. The Design Unit must take this into account by timely submittal of the plans to the Rail Infrastructure Section.

The Office of Rail, in coordination with the railroad, will determine if an at-grade crossing is adequate, should be extended, or warrants a new crossing. An observation may be made regarding the condition of the crossing and compatibility with the proposed project, but it is the responsibility of the Rail Infrastructure Section to determine the actual work required at the crossing.

If there are changes required at the crossing during construction notify Rail Infrastructure, TL Grade Crossing Engineer and the Railroad. Provide updated plans as necessary to convey the changes so that the modification can be reviewed by the railroad. The Railroad Infrastructure Unit will negotiate with the railroad how these changes to the plans can best move forward.

MICHIGAN DESIGN MANUAL
ROAD DESIGN

CHAPTER 14

INDEX

PROCEDURES FOR PLAN PREPARATION

14.07.01 (continued)

Work Type Codes and Descriptions

Bridge

418	Overlay - Epoxy
419	Deck Patching
421	Miscellaneous Bridge Cpm
422	Painting Complete
423	Pin & Hanger Replacement
430	Joint Replacement
431	Substructure Patching
432	HMA Cap (No Membrane)
433	Painting - Zone
460	Superstructure Wash
461	Vegetation Control
462	Drain System Clean/Repair
463	Paint Spot
464	Joint Repair
465	Concrete Surface Coating
466	Crack Sealing
467	Minor Concrete Patching
468	Approach Pvmnt Relief Jts
469	Slope Paving Repair
470	Miscellaneous Bridge
471	New Technologies
472	Bridge Inspection
474	Bridge Removal
475	Special Needs
476	Miscellaneous Bridge CSM
479	Healer Sealer
617	Deck Patching - Full Depth
619	Bridge Barrier Railing Repair
620	Thrie Beam Retrofit
623	Bridge Approach
624	Metal Mesh Panels

Rail

477	Railroad Oversight
478	Relocation Of Railroad Facilities
634	Rail Structures

14.08 (revised 12-17-2018)

ACTIVATION OF "PE" / "PE-S" PHASE
(PPD Task Description 2560)

Once an assignment is made, the Project Manager must activate funding for that project prior to charging any costs to the project. This is done by accessing Phase Initiator and entering additional information and/or revising existing information previously entered into the system. Information that may be added/revised includes:

- Job Location
- Character of Work
- Type of Job
- City
- County
- Urban Area
- Type of Highway
- Type of Improvement
- Length
- Highway System

14.09 (revised 11-22-2021)

RISK BASED PROJECT INVOLVEMENT (RBPI)

The Federal Highway Administration (FHWA) Michigan Division uses a risk-based stewardship and oversight (RBSO) approach to determine how and when the FHWA is involved in programs and projects, while remaining consistent with statutes, regulations, Executive orders, and administrative and financial controls. RBSO integrates risk management into the FHWA performance planning process to identify agency-wide stewardship and oversight (S&O) initiatives. See the Michigan Division Risk Based Project Involvement Guidance document.

14.10 (continued)

SCOPE VERIFICATION MEETING

NOTE: At this stage, the Project Manager should check to see if the project is required to be on the STIP (Statewide Transportation Improvement Plan). This may be done by accessing: JobNet

Job/CR Search (enter job number)
Approved Job
S/TIP

The ***S/TIP Indicator*** shows if the project is required to be on the STIP or TIP. The Phase tab in JobNet shows the S/TIP Cycle each phase is proposed for and the status. Project Managers needing clarification concerning the status of the STIP should contact the Region Planner or Statewide Planning Section of the Statewide Transportation Planning Division in the Bureau of Transportation Planning.

14.11 (revised 11-22-2021)

DESIGN EXCEPTIONS / VARIANCES

After the scope verification meeting is held and the project scope has been agreed upon, the Project Manager should identify any Design Exceptions or Variances (DE or DV) to MDOT standards that will be utilized in the design of the project (See Section 3.08.01E). Exceptions and Variances to MDOT design standards should be identified, and, ideally, completed during the scoping process. However, if this has not been done, a Design Exception Request (Form DE26) or Design Variance (Form DV26) should be completed. The Project Manager should consult with the Geometrics Unit of the Design Division when identifying and developing justification for design exceptions or variances. Previously completed Design Exceptions / Variances should also be reviewed for accuracy and revised at this time.

The Project Manager should request that Design Exception/Variance folders be created in ProjectWise under the project number by e-mailing MDOT-ProjectWise@michigan.gov with a link to the project or by providing the TSC and the Job Number. Consultant access to ProjectWise should also be requested at this time, if necessary. Two DE folders (MDOT and RBPI) and one DV folder will be created for each project, based on possible oversight type of Design Exception or Variance. The folders will be located under “Supporting Documents” and “Design Exception” or “Design Variance”. For each design exception/variance submitted, the Project Manager should place a single Adobe (.pdf) file (no attachments) containing the Design Exception or Design Variance Form, a site specific crash analysis, and other supporting documents into the folder which matches the project oversight Design Exception type or Design Variance. The Design Exception or Design Variance Form should be flattened or printed to Adobe (no longer fillable). However, the Project Manager should also save a copy of the fillable form for future

14.11 (continued)

DESIGN EXCEPTIONS / VARIANCES

revisions. Changing the "state" of the document to "next" will shift control of the DE document to the Design Exception Coordinator for comments or the DV document to the Region Associate Engineer Development. The Project Manager should address the e-mail that appears after changing state, to the appropriate recipient (DE Coordinator for DE or Region Associate Engineer, Development for DV while maintaining the E-ProjectWise address) to indicate that a Design Exception or Variance has been submitted A similar return e-mail indicates that control has shifted back to the Project Manager with comments provided. Revised documents should be inserted into the Adobe file with comment sheets deleted. Electronic signatures are added to the Design Exception or Variance, Crash Analysis, and Crash Analysis Approval Memo (if necessary) only after all changes are made and the documents are ready to be reviewed by the Engineer of Road Design or the Chief Structure Design Engineer (for DE's) or Region Associate Engineer, Development (for DV's).

For projects or project elements with "MDOT Oversight", the completed Design Exception Request (Form DE26) must be approved and signed by the Engineer of Road Design or the Chief Structure Design Engineer. For FHWA Risk Based Project Involvement (RBPI), the completed Design Exception Request (Form DE26) must be approved and signed by the Engineer of Road Design or the Chief Structure Design Engineer and subsequently approved by the FHWA Area Engineer as applicable. The Design Exception Request (Form DE26) and instructions (Form DE26Instructions) for completing the form are available on the MDOT website.

Design Variances (Form DV26) are signed by the Region Associate Engineer, Development who then changes the state of the DV to complete the DV process.

For additional information see Sections 3.09.02C, 3.10.03, 3.11.02D and 3.11.03B.

14.12 (revised 12-17-2018)

REQUEST FOR SURVEY / MAPPING
(PPD Task Descriptions 3310, 3320, 3330, 3340, 3350 & 4510)

Once the scope is verified, the need for a ground survey and/or aerial photography and/or laser scanning for mapping should be determined. Requests for this work can be made by the Region System Manager, Project Manager/Cost and Scheduling Engineer, or the Design Unit Leader. Ideally, the need for, and the requirements of, survey and mapping on a project should be discussed and agreed upon at the Scope Verification Meeting.

If Right-of-Way (ROW) may be acquired for the project, an early control survey should be ordered immediately to enable Real Estate personnel to begin landowner contact and reduce the timeline through the critical path. This early control survey would consist of horizontal survey control being set throughout the project area, government corners being tied in to the coordinate system, and enough property corners being tied to develop approximate non-legal ROW and property lines throughout the project area.

The Survey/Mapping Action Request (Form 0226) should be used to initiate the work. If survey and/or mapping work was ordered and completed during the Call-for-Projects process or under an EPE phase, and additional information is required, a pick-up survey can be ordered using the above forms.

All survey requests should be directed to the Supervising Land Surveyor or Region Surveyor. The Region will decide whether to do the project themselves or request assistance from Lansing survey staff, either in the field or in hiring consultant surveyors. This should be done as soon as possible to allow for the survey and mapping to be completed in a timely manner that does not impact the project's critical path.

14.22 (revised 11-22-2021)

RAILROAD COORDINATION
(PPD Task Description 3650)

Contact by the Department with the railroad company is required any time a railroad crossing is within a highway project Construction Influence Area (CIA). Coordination may also be required if queuing is expected to extend beyond the CIA and impact crossings. Contact and negotiations with the railroad company are made by the MDOT Office of Rail, Rail Infrastructure Section. See Section 12.11 for more information and procedures.

14.41.02 (revised 12-17-2018)

Estimates

The estimate provided to the Utility Coordination, Permits and Agreements Section - Development Services Division for agreement purposes should NOT include contingencies since a contingency factor will be added to the construction cost for agreement purposes. The estimate should be refined to such a degree that it will be within 25% of the final engineer's estimate. Anything in excess of 25% should be called to the attention of the Utility Coordination, Permits and Agreements Section - Development Services Division. The estimate must be split along corporate limits for projects with city participation. Any modifications to the scope should be incorporated in a revised or amended agreement.

Upon receipt of the request for involvement, the Utility Coordination, Permits and Agreements Section - Development Services Division will contact the Design Unit to request any additional information required and will coordinate the agreement processing procedure.

14.41.03 (revised 11-22-2021)

Act 51 Participation

Act 51 Public Acts of 1951, as amended (1982), as amended by Public Act 459 of 2016, provides that cities having a population of 25,000 or more will participate with the Department in the cost of opening, widening and improving, including construction and reconstruction, of State trunkline highways within said cities not within limited access trunkline right-of-way. Cities required to participate, based on the 2020 census, are:

14.41.03 (continued)

OVER 50,000 12.5 % Participation	
Ann Arbor	Novi
Battle Creek	Pontiac
Dearborn	Rochester Hills
Dearborn Heights	Royal Oak
Detroit	St. Clair Shores
Farmington Hills	Southfield
Flint	Sterling Heights
Grand Rapids	Taylor
Kalamazoo	Troy
Kentwood *	Warren
Lansing	Westland
Livonia	Wyoming
40,000 to 50,000 11.25 % Participation	
East Lansing	Portage
Lincoln Park *	Roseville
Midland	Saginaw *
25,000 to 40,000 8.75 % Participation	
Allen Park	Madison Heights
Bay City	Muskegon
Burton	Norton Shores *
Eastpointe	Oak Park
Garden City	Port Huron
Hamtramck *	Romulus *
Holland	Southgate
Inkster	Walker *
Jackson	Wyandotte

* City has changed participation range.

Guidelines for determining types of work which should or should not be included in Act 51 categories in AP Preconstruction for participating Cities and Villages are posted at Act 51 Participation Items.

14.57 (revised 11-22-2021)

PLAN COMPLETION & OEC/CERTIFICATION ACCEPTANCE
(PPD Milestone 380M)
(PPD Milestone 391M)

The Plan Completion date indicates 100% completion of the plans, proposal and supporting documents.

As part of the stewardship agreement with the FHWA, MDOT developed a procedure involving a system of checks/reviews to verify all requirements of the agreement are met. The Department also made the decision to use the majority of the process (completion of the Certification Acceptance form) on all projects (Federal and M funded), including those classified FHWA Oversight. The verification is accomplished by completing the Certification Acceptance form. The form includes reviews (with confirmation by e-signatures) by several divisions and sections within the Bureau of Highways. Once the form is complete in the ProjectWise Supporting Documents folder, it is submitted to the Specifications and Estimates Unit at final turn-in. The required signatures (or initials) are listed below:

- Bridge Design Unit (if applicable)
- Project Manager/Cost and Scheduling Engineer / Design Engineer / Consultants
- Quality Assurance Engineer
- Specifications and Estimates Engineer
- Utility Coordination and Permits
- Governmental Coordination and Engineering
- Office of Rail
- Drainage Engineer
- Force Account Work (if applicable)
- Geometric Design Engineer
- Traffic Signs and Delineation
- Traffic Signals
- Region/TSC Traffic and Safety
- Resident/Delivery Engineer
- FHWA Area Engineer (if applicable)

14.57 (continued)

The following documentation should be in the applicable ProjectWise location prior to final submittal to the Specifications and Estimate Unit.

- Environmental Classification (Form 1775)
  Special Design Considerations Memo
- Mitigation measures required in the environmental document (EIS, FONSI)
- Permits
- Copies of Scope Verification and The Plan Review Meeting minutes.
- Design Exceptions / Variances
- Waiver-Planting Wildflower Expenditures
- Pavement Selection Review Committee Approval Letter.
- Approved Unique Special Provisions
- Signed / Completed
  Certification Acceptance File
- Signed / Completed
  Project Signature Sheet

On FHWA Oversight projects, in addition to the Certification Acceptance File being **complete,** the corresponding signed Risk Based Project Involvement Stewardship & Oversight Plan (RBPI S&O) form must also be obtained, completed/signed, and placed in the ProjectWise Supporting Documents folder prior to submitting the final plan/proposal submittal to the Specifications and Estimates Unit.

Note – the applicable FHWA Area Engineer will supply the RBPI Stewardship & Oversight Plan form on applicable projects with FHWA Oversight.

14.60

SUBMISSION OF COMPLETED PLANS

14.60.01 (revised 11-22-2021)

General

The final plan/proposal package should be submitted to the Specifications and Estimates Unit on or before the date listed in the calendar year's schedule of Letting and Board Dates. This date should not be confused with "Plan Completion Date." Plan completion date occurs after the FPC Meeting and is the date when 100% of the plans are completed. See Section 14.54 for task timelines. A copy of the letting schedule is located on the Plan Development SharePoint site.

The Supervisor of the Specifications and Estimates Unit will determine which projects are candidates for letting with 3 or 4 week advertisements. Projects proposed for 3 week advertisements must have the approval of the Engineer of Design (except for Capital Preventive Maintenance, Non-Freeway Resurfacing Program and Pavement Marking projects). Projects proposed for a 6 week advertisement require notification with the Supervisor of the Specifications and Estimates Unit, and must be submitted one week prior to normal turn in. All other projects will utilize a 5 week advertisement period.

Once a project is submitted to the Specifications and Estimates Unit the Project Manager can check ProjectWise for the status of a project.

Upon receipt of the plan/proposal package for processing, the Specifications and Estimates Unit may ask to review the project with the Design Unit in order to gain an insight into the type of work involved to determine if any additional special provisions and/or supplemental specifications are required.

14.60.02 (revised 11-22-2021)

Requirements

Advertisement cannot occur until all projects within a contract have funding obligation. Funding obligation requests cannot occur without the following:

- All change requests in JobNet are approved
- Environmental Certification or Classification in JobNet is up to date
- ROW Certification or Conditional Certification is approved
- S/TIP CON phase is approved – if a JobNet change request increases the project budget significantly, a previously approved S/TIP phase may become pending, and will need to be approved again before obligation can occur
- FHWA has signed off on the CA Form, if necessary

Expedited or other projects requiring special attention should be brought to the attention of the Supervisor of the Specifications and Estimates Unit prior to submittal. This includes projects without all the material described above.

14.60.03 (continued)

Specifications and Estimates will not submit the package for advertisement without an approved exception.

14.60.04 (revised 12-17-2018)

QA/QC Review

It is the responsibility of the Project Manager to perform a QA/QC review of the entire plan/proposal package prior to submittal to the Specifications and Estimates Unit. As a minimum, in addition to those items listed under Section 14.60.02, the following items ***must*** be correct:

- Quantities and pay items on plan sheets must match those in AP Preconstruction.
- All Unique Special Provisions with a pay item must have a matching pay item in the plans and in AP Preconstruction.
- All 7000 numbers in AP Preconstruction must have a Unique Special Provision in the proposal with matching units.
- Any Frequently Used Special Provision with a pay item must have a matching pay item in the plans and in AP Preconstruction.
- All Frequently Used Special Provisions and Specifications include in the package are the latest version.
- AP Preconstruction files must be complete and correct.
- All references to standard plans and special details are the latest version.

14.60.05 (revised 11-22-2021)

AASHTOWare Project (AP)Preconstruction Files

Listed below are some directions/reminders concerning AP Preconstruction files:

- Project should be identified as J.N. with A (######A)
- Proposal Contract ID should be “C.S.-J.N.”, with no extra spaces or characters, job number does not have an “A” or any other suffix
- If more than one job is packaged together, the Contract ID number is based on the predominate C.S. in the lowest numerical job number of those being packaged together.
- County number is filled in
- Spec year is correct, both at proposal and project level
- Section and Line number have been run
- Primary Region has been filled in
- Section List indicate “Road Work” or “Bridge Work”
- Long description entered using standard wording
- Number of plan sheets filled in
- Contract type is filled in
- All Pre-established prices have been marked
- Funding distribution adds to 100%
- Each Lump Sum item adds to a combined total of 1.00
- Administrative unit has been filled in
- Beginning and Ending termini have been filled in
- CE dollar amount is correct
- Control group changed to ”DS” in the Project and Proposal level
- The unit bid requirement code (on Items tab) is fixed, NOT LOCKED, for all dollar items
- Project start date and completion date filled in
- The supplemental description for all 7000 items is the same as the pay item in the Special Provision.

3.02.05

Municipal Participation - Act 51
(11-22-2021)

For bridge construction work, only certain activities qualify for participation by municipalities pursuant to Act 51 and the State Trunk Line Highway System excerpt. In general, participation is required for new construction of bridge and major modifications due to widening, upgrading, replacement, increase traffic volume or strengthening the structure. Non-participating activities, in general, are those that involve the routine maintenance or repair of these existing structures.

Work requested by local municipalities will in general be 100% municipal participation. An agreement with chargeable expenses is required and administered through the Utility Coordination, Permits and Agreements Section - Development Services Division.
(8-20-2009) (10-22-2012)

Guidelines for determining types of work which should or should not be included in Act 51 for participating Cities and Villages are posted at Act 51 Participating and Non-participating Items.

(11-22-2021) The following cities are required to participate in accordance with Act 51 PA 1951:

CITIES			
12.5% Participation **Population:** **50,000+**		**11.25% Participation** **Population:** **40,000 to 50,000**	**8.75% Participation** **Population:** **25,000 to 40,000**
Ann Arbor	Novi	East Lansing	Allen Park
Battle Creek	Pontiac	Lincoln Park *	Bay City
Dearborn	Rochester Hills	Midland	Burton
Dearborn Heights	Royal Oak	Portage	Eastpointe
Detroit	Southfield	Roseville	Garden City
Farmington Hills	St. Clair Shores	Saginaw *	Hamtramck *
Flint	Sterling Heights		Holland
Grand Rapids	Taylor		Inkster
Kalamazoo	Troy		Jackson
Kentwood *	Warren		Madison Heights
Lansing	Westland		Muskegon
Livonia	Wyoming		Norton Shores *
			Oak Park
			Port Huron
			Romulus *
			Southgate
			Walker *
			Wyandotte

* City has changed participation range.

7.01.08 (continued)

Vertical Clearance

A. Requirements

For shared use paths (pedestrian and bicycle), the vertical clearance to obstructions, including overhead fencing, shall be a minimum of 8'-6" (10'-0" desired). However, vertical clearance may need to be greater to permit passage of maintenance and emergency vehicles. In undercrossings and tunnels, 10'-0" is desirable for vertical clearance. See AASHTO's Guide for the Development of Bicycle Facilities. (9-2-2003)

B. Interstate Vertical Clearance Exception Coordination (11-22-2021)

In addition to normal processing of design exceptions, all proposed design exceptions pertaining to vertical clearance on Interstate routes including shoulders, and all ramps and collector distributor roadways of Interstate to Interstate interchanges will be coordinated with the Surface Deployment and Distribution Command Transportation Engineering Agency (SDDCTEA). The only Interstate routes the SDDCTEA is interested in are the routes that require a 16'-0" vertical clearance. These routes include all the Interstate system including US -131 between I-196 and I-96 (this roadway is technically I-296 but not signed as such). In addition to the Interstate route requirements listed above, coordinate variances to the required vertical clearance on Strategic Highway Network (STRAHNET) (interstate/non-interstate) with SDDCTEA, including US - 23 between Ohio state line and I - 75 south of Flint. This requirement does not apply to Special Routes (1).
(12-5-2005) (7-23-2018)

7.01.08 (continued)

MDOT (or its Consultant) is responsible for coordinating exceptions on all projects regardless of oversight responsibilities. MDOT will send a copy of all requests, and responses, to the FHWA. Michigan Interstate Vertical Clearance Exception Coordination, MDOT Form 0333, is available from MDOT web site. (11-28-2011)

Requests for coordination shall be emailed to:
usarmy.scott.sddc.mbx.tea-hnd@mail.mil

Contact with inquiries:
Douglas E. Briggs, P.E., 618-220-5229
douglas.e.briggs.civ@mail.mil
or
Grant E. Lang, 618-220-5216
grant.e.lang.civ@mail.mil

Physical mailings:
Highways for National Defense
ATTN: SDDCTEA
1 Soldier Way
Scott AFB, IL 62225

Fax: 618-220-5125

MDOT (or its Consultant) shall verify SDDCTEA receipt of the request. If no comments are received within ten working days, it may be assumed that the SDDCTEA does not have any concerns with the proposed design exception.

7.01.08 (continued)

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